

a.) Amendment to the Claims:

1-20. (Cancelled).

21. (Currently Amended) A process for producing a uridine diphosphate sugar, which comprises:

selecting as an enzyme source a yeast cell selected from the group consisting of *Saccharomyces* and *Kluyveromyces* or a treated product thereof, said yeast or treated product thereof being capable of producing a uridine diphosphate sugar from a nucleotide precursor selected from the group consisting of orotic acid, uracil, orotidine and uridine, and a sugar;

carrying out an enzymatic reaction in an aqueous medium containing the enzyme source, the nucleotide precursor and the sugar to form and accumulate the uridine diphosphate sugar in the aqueous medium; and

recovering the uridine diphosphate sugar from a supernatant of the aqueous medium,

wherein said treated product is a ~~dried product of the cells, a freeze-dried product of the cells, a surfactant-treated product of the cells, an ultrasonic-treated product of the cells, a mechanically disrupted product of the cells, a solvent-treated product of the cells, an enzyme-treated product of the cells, a protein fraction of the cells, an immobilized product of the cells, or an enzyme preparation obtained by extraction from the~~

cells dried cells, freeze-dried cells, surfactant-treated cells, solvent-treated cells, enzyme-treated cells, or immobilized cells.

22. (Currently Amended) A process for producing a complex carbohydrate, which comprises:

selecting as a first enzyme source, a yeast cell selected from the group consisting of *Saccharomyces* and *Kluyveromyces* or a first treated product thereof, said yeast or first treated product thereof being capable of producing a uridine diphosphate sugar from a nucleotide precursor selected from the group consisting of orotic acid, uracil, orotidine and uridine, and a sugar;

carrying out an enzymatic reaction in a first aqueous medium containing the first enzyme source, the nucleotide precursor and the sugar to form and accumulate the uridine diphosphate sugar in the first aqueous medium;

recovering the uridine diphosphate sugar from the first aqueous medium;

selecting as a second enzyme source, a microorganism or an animal cell line or a second treated product thereof, said microorganism, animal cell line or second treated product thereof being capable of producing a complex carbohydrate from the uridine diphosphate sugar and a precursor of a complex carbohydrate selected from the group consisting of monosaccharides, oligosaccharides, proteins, peptides, glycoproteins, glycolipids and glycopeptides;

carrying out an enzymatic reaction in a second aqueous medium containing the second enzyme source, the precursor of complex carbohydrate and the uridine diphosphate sugar to form and accumulate the complex carbohydrate; and

recovering the complex carbohydrate from the second aqueous medium,

wherein said first treated product is dried cells, freeze-dried cells, surfactant-treated cells, solvent-treated cells, enzyme-treated cells or immobilized cells, and

wherein said second treated product is a dried product of the cells, a freeze-dried product of the cells, a surfactant-treated product of the cells, an ultrasonic-treated product of the cells, a mechanically disrupted product of the cells, a solvent-treated product of the cells, an enzyme treated product of the cells, a protein fraction of the cells, an immobilized product of the cells, ultrasonic-treated cells, mechanically disrupted cells, a protein fraction of the cells or an enzyme preparation obtained by extraction from the cells.

Claim 23. (Cancelled)

24. (Previously Presented) The process according to claim 21 or 22, wherein the uridine diphosphate sugar is selected from the group consisting of uridine-

diphosphate glucose, uridine-diphosphate galactose, uridine-diphosphate N-acetylglucosamine and uridine-diphosphate N-acetylgalactosamine.

25. (Previously Presented) The process according to claim 21 or 22, wherein the sugar is a sugar selected from glucose, galactose, glucosamine, N-acetylglucosamine and N-acetylgalactosamine.

26. (Previously Presented) The process according to claim 22, wherein the precursor of a complex carbohydrate is N-acetylglucosamine or N-acetylglucosamine  $\beta$ 1-3galactose  $\beta$ 1-4 glucose.

27. (Previously Presented) The process according to claim 22, wherein the complex carbohydrate is a glucose-containing complex carbohydrate, a N-acetylglucosamine-containing complex carbohydrate, a galactose-containing complex carbohydrate, or a N-acetylgalactosamine-containing complex carbohydrate.

28. (Previously Presented) The process according to claim 27, wherein the galactose-containing complex carbohydrate is a complex carbohydrate selected from lacto-N-tetraose and lacto-neotetraose.

29. (Previously Presented) The process according to claim 22, wherein the microorganism capable of producing a complex carbohydrate from the uridine diphosphate sugar and a precursor of a complex carbohydrate is a recombinant *Escherichia coli* or *Saccharomyces cerevisiae*.

30. (Previously Presented) The process according to claim 22, wherein the animal cell line capable of producing a complex carbohydrate from the uridine diphosphate sugar and a precursor of a complex carbohydrate is recombinant COS-7 cell or namalwa KJM-1 cell.

31. (Previously Presented) The process according to claim 30, wherein the animal cell line is transformed with a plasmid comprising DNA encoding  $\beta$ 1,3-galactosyltransferase.

32. (Previously Presented) The process according to claim 31, wherein the DNA encoding  $\beta$ 1,3-galactosyltransferase is derived from human melanoma cell line WM266-4.

33. (Previously Presented) The process according to claim 31, wherein the animal cell line is namalwa KJM-1/pAMoERSAW1.